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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,976	12/08/2003	David Tarasenko	P508 0003	1098

720 7590 05/26/2005

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EXAMINER

ALVO, MARC S

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,976

Applicant(s)

TARASENKO

Examiner

Steve Alvo

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-12,14-55,57-62 and 64-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-12,14-55,57-62 and 64-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The amendment filed March 8, 2005, is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the material added to Page 3, 20-23, page 3, lines 32-37, and, page 3, lines 25-30. For example, the term "more than 22%" was not originally disclosed and includes all values above 22% which is broader than the original disclosure. The terms "free of ammonium ions and aluminum", "for more than 200 minutes, for at least 6 hours, or for at least 12 hours", "below 75°C" and "may consist only of nitric acid and water" were not originally disclosed.

Applicant is required to cancel the new matter in the reply to this Office Action.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-12, 14-55, 57-62 and 64-73 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The term "below 75 °C for at least 15 minutes was not originally disclosed. This term includes a temperature of "0 °C" which was not originally disclosed"; The terms "more than 75 minutes"; "moisture content of 30% to 55% by weight"; "consisting only of nitric acid and

water", "free of ammonium ions and aluminum", "11 to 59 minutes at or above the boiling point"; "more than 200 minutes", "at least 6 hours", "at least 12 hours", more than 22%", at least 60 °C", "at least 11 minutes" were not originally disclosed and thus comprise new matter.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over PRIOR.

PRIOR teaches contacting all forms of lignocellulosic material, e.g. wood chips or grassy materials (column 5, lines 37-58), with nitric acid impregnating liquor, heating the liquor during impregnation to a temperature of 70 °C or below (column 6, lines 65-67) and then heating the lignocellulosic material to delignify the material by heating to a preferred temperature of 85°C to 95°C (column 8, lines 1-5); e.g. above the boiling point of the nitric acid for cooking times of 15 to 60 minutes (Table 2a); wherein the nitric acid concentration is about 10% to 40% by weight, e.g. 9% nitrate concentration by weight of wood (column 3, lines 30-35), alkali extracting the lignocellulosic material to solubilize the lignin with NaOH or KOH (column 12, lines 25-53), separating the lignin from the material by precipitation (column 16, lines 45-50) and removing the black liquor from the pulp (column 13, lines 33-36). It would have been obvious to remove any liquor not absorbed by the wood between the two heating stages as such is shown in Figures 1 and 1a, e.g. draining between each of the heating stages. See PRIOR, column 9, line 49 for using an atmospheric pressure. See, column 10, lines 65-68 for a boiling point of 86 °C for the nitric acid solution. It would have been obvious to one of ordinary skill in

the art that the to choose the optimum time depending upon the size and type of the material, the concentration of treating agent, and the cooking temperature used, e.g. see PRIOR, column 11, lines 37-51). Optimizing the conditions of the temperature, nitrate concentration, treatment time would have been well with the skill of the routneer.

Claims 54, 55 and 57-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over PRIOR as applied to claim 61 above, and further in view of TORGET et al.

TORGRT teaches fermenting sugars obtained from lignocellulosic material to produce alcohols (column 1, lines 46-51). It would have been obvious to one of ordinary skill in the art that any sugars remaining in the pulping liquor of PRIOR could be fermented and converted into sugar in the manner taught by TORGET et al.

Claims 1, 3-12 and 14-53, 62 and 64-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over PRIOR as applied to claim 61 above, and further in view of ROWE et al.

ROWE teaches recovering pulping liquor by separating the lignin from the liquor and distilling off the volatile acids during the black liquor recovery process. It would have been obvious that the black liquor could have been distilled to separate the volatile organic acids during the liquor recovery in the manner taught by PRIOR.

Applicants arguments that PRIOR teaches a concentration preferably not more than 5.5 is not convincing as the 5.5% of PRIOR is the percentage of nitrate concentration by weight of wood. The instant specification and claims call for concentration is about 10% to 40% by weight in the solution. For example Applicant is comparing the instant 10-40% nitric acid solution to the 9%, preferably 5% nitric acid per wood of PRIOR. The important factor is the amount of nitric acid per weight of wood and not the concentration of the nitric acid in the

solution. Applicant has not compared the instant nitric acid weight/wood to the weight/wood of PRIOR. It is noted that PRIOR teaches that the HNO₃ concentration of the solution could be up to 91%, see column 20, lines 17-22 (10 parts 100% HNO₃ and 1 part 100% aluminum sulphate).

The argument that the instant claims call for a temperature below 75°C and not the 70°C or below taught by PRIOR is not convincing as the claimed range overlaps the range of PRIOR. The 70°C of PRIOR is meets the claimed limitation "below 75°C".

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

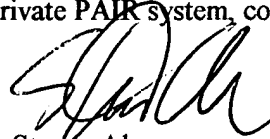
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Alvo whose telephone number is 571-272-1185. The examiner can normally be reached on 5:45 AM - 2:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steve Alvo
Primary Examiner
Art Unit 1731

msa